Research areas

Topics described in this brochure:

- Polymer coatings and films
- Polymer blend phase behavior
- Biocompatibility assay
- Adhesives
- Surface chemistry and modification
- Semi-crystalline polymers
- Block-copolymer ordering behavior
- Fire retardants
- High-throughput measurements
- Library production support
- Laser scanning microscopy
- Chemical microscopy by SIMS
- Data mining: Searching for patterns
- Quantitative spectral imaging
- Dielectric oxide thin films
- Metallization of GaN semiconductors
- TEM studies of combinatorial libraries
- Polarized light scattering
- Thermal properties screening
- Fluid properties microanalysis
- Service life prediction
- Microhotplate array platforms
- Modeling and characterization
- Infrared chemical imaging

Apply methods in service to NIST programs, e.g. polymer, metal, and ceramic films and coatings, biomaterials, flame retardants, electronic and optical materials.

"Combi for NIST"

"NIST for Combi"

Use NIST measurement and standards expertise to provide tools, validate methodology, assess uncertainties, provide standard reference materials and produce data libraries.

- Data base generation
  - Data bases from combinatorial libraries
  - Validation of 'Virtual' data base concepts
- Infrastructure
  - Robust, interoperable methods for data manipulation, storage, and mining.
  - Statistical issues unique to combinatorial approaches
- Knowledge Discovery
  - Test models and theories of complex systems
- NIST Combinatorial Methods Center - NCMC
  - Multidisciplinary effort to establish entire infrastructure focused on selected issues